



Hosting Traffic & Technical Specification



Developer of the Year (2004)



5 out of 5 mice



5 out of 5 stars



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Hosting Traffic

We are often asked for guidance on hosting Traffic. This short guide sets out the considerations you should make when choosing how to host Traffic, and also makes a series of practical recommendations.

This document is aimed at explaining principals and considerations rather than specific equipment. Specific recommendations can be found on our web site and are attached in Appendix A.

What is the infrastructure that makes Traffic Work?

Traffic is a client server application based on the Filemaker database platform.

Filemaker Server software will run on the server machine, and Filemaker Pro on the users desktop.

Additionally certain components of Traffic use a web server to function. We typically set up Apache on a Mac and IIS on a PC server. More on this later.

Filemaker is cross platform Mac / PC.

What Sort of Server do I need?

Filemaker Server will run on either a Mac or PC server. A dedicated server is strongly recommended for performance reasons and also to minimise the risk of applications conflicting with each other.

The specification of the server is dependant upon the number of users on your system. Please bear in mind that this is a database server being connected to by your whole organisation simultaneously. The higher the specification the better it will run and the faster the response time you and you team will experience.

Mac or PC? To some extent this is personal choice, however on economic grounds Mac equipment is only really sensible for small (less than 15 users) installations. Above this PC equipment offers far more performance for something around 50% of the price.



MAC

For less than 15 users the most economical host is a Mac Mini. These are fast, have good network connections and highly cost effective. The Mac Mini comes with the required operating system and also the required web server software.

If you are not technically minded we can supply a Mac Mini loaded with all the required software. Just plug it in. Your Traffic specialist will be able to provide you with this a price.

Above this number of users you will need to consider an X Serve if you wish to remain with Mac kit, however these represent relatively poor value for money compared with like for like specifications of PC based machines. To give you some idea on a pound for pound basis a PC machine would have two 15,000 RPM hard drives compared to one 7,200 RPM drive in a Mac and probably 4 times the amount of memory.

You may have a preference for Mac kit. They will work fine, look beautiful (not sure that matters in a server rack) but at a price.

PC

For small installations the reverse is true. PC servers can be purchased for a similar amount of money as a Mac Mini, however you will need to purchase the Windows Server operating system to host the application. This will cost about the same as the hardware, so a Mac Mini will tend to be better value.

You can run Filemaker on Windows XP, but this will be far less stable than say Windows 2008 Server. We have server machines that has run for years without being turned off. You are unlikely to achieve this on XP. Filemaker Server will not run on Vista.

For larger installations we recommend Dell for the simple reason that all the configuration is done by them. Take it out of the box, turn it on, answer some questions and you are pretty much done. The equipment is also reasonably priced and arrives within 7-10 days.



Server Specifications

Disks

A database server is making multiple disk accesses. As such it is sensitive to disk access speed. The faster the rotation speed of the drive the faster it will serve data. If you are above 15 users you should opt for 15,000 RPM drives.

SSD (Solid State Drives) are now coming on the market. The larger your organisation then more you should consider this as an option. They read 20 times faster than a hard drive and as user numbers start to enter the hundreds they are a worthwhile investment.

RAID (Redundant Array of Inexpensive Disks) is a method of protecting yourself from disk failure. The most common set up is RAID 1. Here two drives – of say 146GB capacity – will provide you with what is seen by the server as a single 146GB disk. The disks mirror each other, and hence should one fail you keep on working normally, then when ready simply take it out, put in a new one and carry on.

The Traffic system is set to backup several times per day, but a disk / server failure between these backups could cost you time in reconstructing the data. For larger installations it would be a false economy not to adopt RAID technology. You can see more in depth specifications here: http://www.filemaker.co.uk/products/fms/tech_specs.html

Memory

Filemaker is a 32 bit application – ie it cannot address more than 4GB of RAM. 64bit operating systems are not supported.

We would recommend 4GB of RAM for the server.

For certain applications you may need more memory, see Terminal Services below.

Processing

Filemaker Server is single threaded and as such cannot take advantage of more than one processor. Hence the speed of the processor, rather than the number of processors will determine performance.



Network Connectivity

Your server will need to have a 1gb connection. If it has a slower 100mbps connection then it is not suitable to host a data intensive application.

It is imperative that this is connected to a 1gb port on your router. If not performance will suffer significantly. Ideally you should have a 1gb router. These are relatively cheap and will enhance your networks performance significantly. This will not only impact the speed with which you access Traffic but also the speed of your whole network.

Accessing Traffic Remotely

We are often asked if / how you can connect to Traffic remotely over the internet?

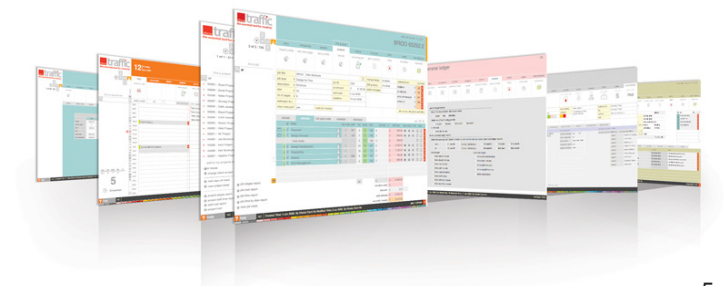
There are two principal ways of doing this.

Remote Access

Filemaker has a built in "remote access" capability that connects to a Filemaker Server over the internet. The speed of this connection is determined mostly by the speed with which your office internet line can serve data.

A typical ADSL line can send at about a 10th of the speed it can receive – ie not particularly fast.

The result is that Traffic will take some time to open whilst the application downloads. Once open performance will be adequate for occasional use, but unless you have a fast send speed on your office line is not likely to be suitable for extended use, or for example a remote office.



Terminal Services

Terminal Services allows the whole of the Traffic system to be run on the server, it is only the screen that is transmitted over the internet. As such this uses a relatively small internet bandwidth (estimated at 30kbps) and allows fast remote access. Many users report Traffic runs faster on the terminal server than on their local desktop. This is due to the Traffic application being run directly on a high powered server.

Traffic can sync with Outlook / iCal etc. and these require that the calendar program is on the same machine as the Traffic client. This can work using Terminal Services, but it does require some careful planning.

Terminal Services was revamped for Server 2008 and we would strongly recommend that this is used in preference to Server 2003. The biggest difference is in printing which is self configuring in 2008.

Terminal Services is a Microsoft Product. There is no MAC equivalent which we are aware of.

Terminal Services Hardware Requirement

The "correct" way to configure Terminal Services is to use two physical servers, one to host the Filemaker Server, and one to host the terminal server.

This said we have implemented terminal service many times using a single server, and only used split boxes on one installation for in excess of 200 users.

Unless there is good reason to deploy on two boxes we would recommend using a single server, split into two using VM ware. VM Ware is available at no charge.

The server will need significant processing power and memory. Each time a user opens Traffic a new user session is created by the software. This needs processor and memory resource allocated to it.

There is a limit to the number of concurrent users that a Terminal Server can handle. Above this you will require additional terminal servers to balance the load. It is difficult to give precise estimates, but it lies somewhere between 30 and 50 users depending on the hardware you are deploying.



The Terminal Services virtual machine should run Windows 2008 64 bit as the operating system and multiple processor cores with plenty of memory. Please consider that the difference in price between 4GB RAM and 24GB RAM is minimal.

If the system runs out of memory it will “page” to disk which will slow the system considerably.

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Hosting Centres

The Traffic Server can be hosted in a hosting centre. The principal reason for hosting the application is to allow remote users fast access.

The advantages of hosting in a hosting centre are principally :-

- the server is off site. This can be important if in a large company IT cannot get round to helping with your request
- It will be connected to the internet using a very fast link. As such Terminal Services will be fast, but equally the Remote Access capability of filemaker should give good results for remote users – dependant upon the internet connection at their location.

Hosting has a monthly premium attached to it.

Desktop Machines

You can run Traffic on a Mac or PC. You can see relevant specifications here:

http://www.filemaker.co.uk/products/fmp/tech_specs.html

The specification of the machines must be reasonable. We do supply technical specifications, but in essence the kit should be generally no more than 3/4 years old and have sufficient memory. Please remember memory is cheap – Crucial have a “memory scanner” that scans your PC/ MAC and tells you how much it can take and the cost. Memory is cheap but the performance gain significant.



FAQ

Q. Can I use an existing server?

A. You can, but we recommend a dedicated server for performance reasons. If you wish to try your existing environment you can and we will help you move it later, but remember first impressions count to your team, and putting Traffic on an otherwise loaded server will impact performance.

We strongly advise against putting Traffic on a mail server or file server or any server already serving an internet site. This may render some features of Traffic unusable.

Q. Can I use an old computer in the office as a server?

A. You can, and a surprising amount of people try this, but you are very unlikely to be happy with the result. We don't recommend it. If you do use an old server at the very least replace its disk drives – they are mechanical and the first things to go wrong. This is business critical system. But to be honest, just buy a Mac Mini – you will get a far better result.

Q. Can I host Traffic using VM Ware? (VM Ware divides a single server in to multiple virtual servers)

A. Yes. Filemaker Server runs under VM ware. We have several installations using VM ware.

If you are using VM Ware it is imperative that your IT person genuinely understands the environment that they have created. VM Ware introduces a wide range of variables, and the person setting it up must understand how resources are allocated to the virtual server and appreciate that any given hardware set will have limitations.

Q. Other than Filemaker what else needs to be deployed?

A. Certain functions of Traffic require a web server to be enabled. We use the built in web servers on the Mac and PC operating systems.

On a Mac this is Apache, and on a PC IIS. You may need you original install disks for these functions to be enabled. IIS is difficult to configure and WAMP is an alternative.

This web server is used for internal users. External users can access parts of the system over the internet if you have allowed your router to open internet traffic.



Q. Can you help us with our IT infrastructure?

A. No. We give some guidance, but the actual environment in which systems are deployed is outside of our control. We will conduct the technical install on your behalf for a fee, but this does not cover solving network problems that may emerge. We will seek to assist you, but network problems must be solved by a network expert.

We would however strongly recommend that you take kit out of the box, accept the default configuration and plug it in. In our experience systems or networks that give problems have been subject to multiple configuration changes by staff who whilst well meaning and competent do not understand the cumulative effect of the changes that they have made.

We would also recommend that you follow our advice. We have looked at many systems where an old server has been used, the server has been connected to 100mbps ports not 1gb ports etc.

Q. Do you supply equipment?

A. We will supply equipment, configure it and ship it to you. We add a margin to equipment purchase, but from your side you simply open the box and plug it in. We do not touch security settings at all and they are left at the manufacturers default. If these do not meet your policies then they must be changed by you.

We do not maintain equipment as we are simply supplying for the convenience of our clients. As such all warranty claims will need to be addressed with the supplier of the goods – typically Dell or Apple.

Q. Do you supply Hosting?

A. We can provide hosting in the UK for approximately £250 per server per month. The server is paid for by the client. We backup the server and will seek to get the server repaired in need. Should this be out of manufactures warranty then the cost will be down to the client. We do not hold backup hardware.

The alternative is to enter into a hosting agreement with a dedicated company such as Rapid Host. They are familiar with Filemaker and will provide an end to end service including hardware, monitoring, backup and so on. Naturally this comes at a price.

We can arrange an introduction to Rapid Host but do not resell their services.



Q. What external connections does the server need?

A. We connect to :-

- your mail server using the mail details you provide
- your file server (where you store your artwork etc). The traffic server must be on the same domain as the file sever so they can communicate
- Backups. Backups run as programmed on the server. We can backup to any sever that the Traffic Server can "see". If you wish we can backup to the Traffic server but it is imperative that this server is backed up elsewhere.
- the internet

Q. Are there any known software conflicts?

A. Yes. You cannot use Retrospect backup software on a PC, and Norton AntiVirus can conflict with Document Management and slow the network.

Your backup software must only back-up the back-ups of the database, not the live running database. Backing up a live file is likely to cause the database to crash.

Q. Do Sohнар have access to the Server?

A. Sohнар have access to the Filemaker Server so that we can support the system. This must be granted by you, and a port opened on your router. If you do not grant us remote access then our support services will be far less efficient. This access only allows us to view the Filemaker Server – we cannot see the Traffic Server or anything else on your computer network.

Q. What is the most common cause of server failure?

A. A power cut. We have only known one server actually fail, and that was not a new server when it was installed.

Q. What is the silliest thing I should avoid doing?

A. Forgetting the password to the server. You will have to uninstall and re-install the software. Tip – write it down!

In Closing

The aim of this guide is to inform rather than complicate what is actually a relatively simple, but potentially wide ranging, topic for most users. Keep it simple. Buy new equipment and stick with the manufacturers and our recommendations. You will not go too far wrong.

